

PATENT ABSTRACTS OF JAPAN

Docket: 4929
Inv: Haruyo Fukui
etal.

(11)Publication number : 09-295204

(43)Date of publication of application : 18.11.1997

(51)Int.Cl.

B23B 27/14

C23C 14/06

(21)Application number : 08-131050

(71)Applicant : HITACHI TOOL ENG LTD

(22)Date of filing : 26.04.1996

(72)Inventor : SHIMA NOBUHIKO
KUBOTA KAZUYUKI

(54) SURFACE COATING THROW AWAY INSERT

(57)Abstract:

PROBLEM TO BE SOLVED: To keep the sufficient adhesiveness of a film even in a cutting process of a steel, of which hardness is higher than the Rockwell hardness at 40 (scale C), by setting the diffraction intensity of a surface (200) at the time of X-ray diffraction of a coating layer at a value larger than a value of the diffraction intensity of a surface (111).

SOLUTION: Surface of a throw away insert is coated with the compound nitride of Ti and Al, carbon nitride, and carbide. In this throw away insert, in the case where diffraction intensity of a surface (111) at the time of X-ray diffraction of a coating layer is expressed with I (111) and diffraction intensity of a surface (200) is expressed with I (200), both the diffraction intensity are set so that a value of I (200)/I (111) becomes 1 or more. For example, a compact arc ion plating device is used so that coating of a film of (Ti0.5Al0.5) N is performed at 5µm of thickness in the condition of bias voltage at 60 V, vacuum degree at 2.0×10^{-2} mbar, arc current at 150 A. A coating layer at 1.5 of I (200)/I (111) is thereby formed.

LEGAL STATUS

[Date of request for examination] 31.07.1997

[Date of sending the examiner's decision of rejection] 19.10.1999

[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]

[Date of final disposal for application]

[Patent number] 3229947

[Date of registration] 14.09.2001

[Number of appeal against examiner's decision of rejection] 11-18614

[Date of requesting appeal against examiner's decision of rejection] 18.11.1999

[Date of extinction of right] 03.06.2003

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SEP 12 2005